

Offshore Wind: Environmental Considerations

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The Role of Government

Offshore wind development in the U.S. is overseen by both federal and state agencies. Local governments may also be involved for local land-use approvals.

The federal government has jurisdiction over all ocean activities more than three nautical miles from the shore. Specifically, the **Bureau of Ocean Energy Management (BOEM)** is responsible for selecting areas of the ocean that are appropriate for wind energy development, leasing the wind energy areas (WEAs) to project developers, and reviewing and approving all aspects of plans to design, develop, and decommission offshore wind farms in federal waters as part of the National Environmental Policy Act (NEPA).

Other Involved Agencies

- Environmental Protection Agency
- Federal Aviation Administration
- National Oceanic and Atmospheric Administration
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Fish and Wildlife Service

The Role of Government

The State Role

Through competitive solicitations, NYSERDA contracts with offshore wind developers who want to deliver power to New York State. Specifically, NYSERDA purchases offshore renewable energy certificates (ORECs) from the developers in order to account for the beneficial environmental attributes associated with generating clean power. Contracts with offshore wind developers include important provisions that dictate how New York State will benefit from the project, such as economic benefit commitments and environmental and fishing mitigation plans.

The Local Role

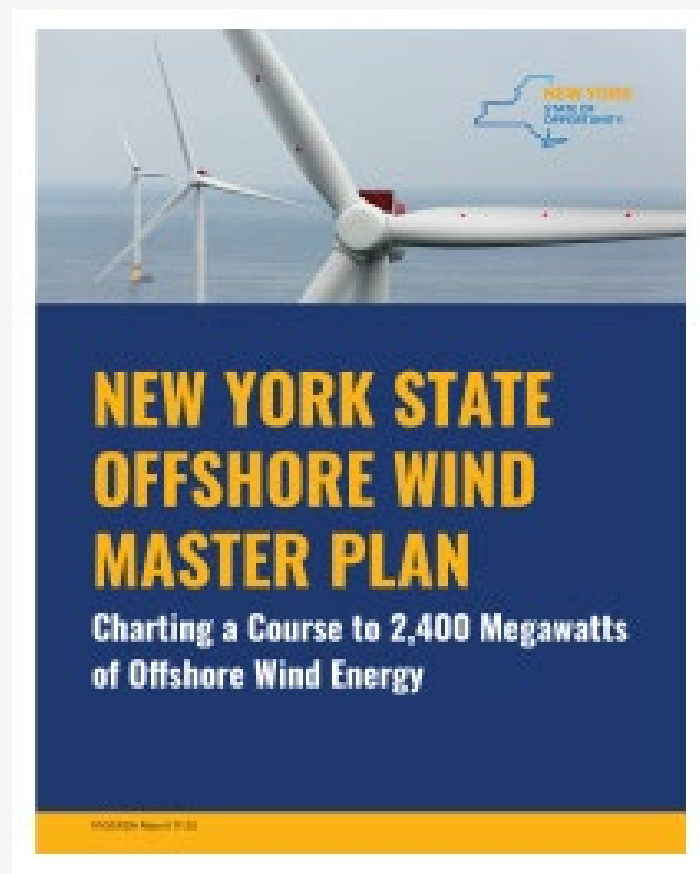
Renewable energy from offshore wind farms connects to New York's existing electricity grid at onshore substations. When determining an optimal route from the shore to a local substation, project developers consult with relevant local governments and may enter into easement agreements if the route transacts government-owned roads or property.

New York and Regional Efforts



Source: December 2019 NYSERDA Presentation <https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Focus-Areas/Connecting-With-New-Yorkers/Webinar-Series>

New York Offshore Wind Master Plan



Master Plan Studies

NYSDORA conducted 20 studies and engaged with stakeholders and the public to create the Master Plan in order to determine the most responsible and cost-effective pathways for developing offshore wind energy.

- A. [Analysis of Multibeam Echo Sounder and Benthic Survey Data](#) [PDF]
- B. [Assessment of Ports and Infrastructure](#) [PDF]
- C. [Aviation and Radar Assets Study](#) [PDF]
- D. [Birds and Bats Study](#) [PDF]
- E. [Cable Landfall Permitting Study](#) [PDF]
- F. [Cables, Pipelines, and Other Infrastructure Study](#) [PDF]
- G. [Consideration of Potential Cumulative Effects](#) [PDF]
- H. [Cultural Resources Study](#) [PDF]
- I. [Environmental Sensitivity Analysis](#) [PDF]
- J. [Fish and Fisheries Study](#) [PDF]
- K. [Health and Safety Study](#) [PDF]
- L. [Marine Mammals and Sea Turtles Study](#) [PDF]
- M. [Marine Recreational Uses Study](#) [PDF]
- N. [Offshore Wind Injection Assessment](#) [PDF]
- O. [Preliminary Offshore Wind Resource Assessment](#) [PDF]
- P. [Sand and Gravel Resources Study](#) [PDF]
- Q. [Shipping and Navigation Stud](#) [PDF]
- R. [U.S. Jones Act Compliant Offshore Wind Turbine Installation Vessel Study](#) [PDF]
- S. [Visibility Threshold Study](#) [PDF]
- T. [The Workforce Opportunity of Offshore Wind in New York](#) [PDF]
- U. [Area for Consideration for the Potential Locating of Offshore Wind Energy Areas \(Submission to Bureau of Ocean Energy Management\)](#) [PDF]
- V. [Offshore Wind Policy Options Paper](#) [PDF]
- W. [Outreach and Engagement Summary](#) [PDF]
- X. [Table of Permits and Approvals](#) [PDF]

Source: <https://www.nyseda.ny.gov/All-Programs/Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan>

New York Offshore Wind Master Plan

Environmental Benefits from 2400 MW of offshore wind

Greenhouse Gas Reductions: 5 million tons, or **one-third** of the expected greenhouse gas reductions from new renewable energy projects that will be constructed by 2030 to meet the Clean Energy Standard 50 percent renewable electricity target.

Air Quality Improvements: The production of zero-emission energy close to the two largest load pockets in New York State — New York City and Long Island — could improve local air quality and public health in these locations and beyond by reducing the use of gas and oil fired generation facilities.

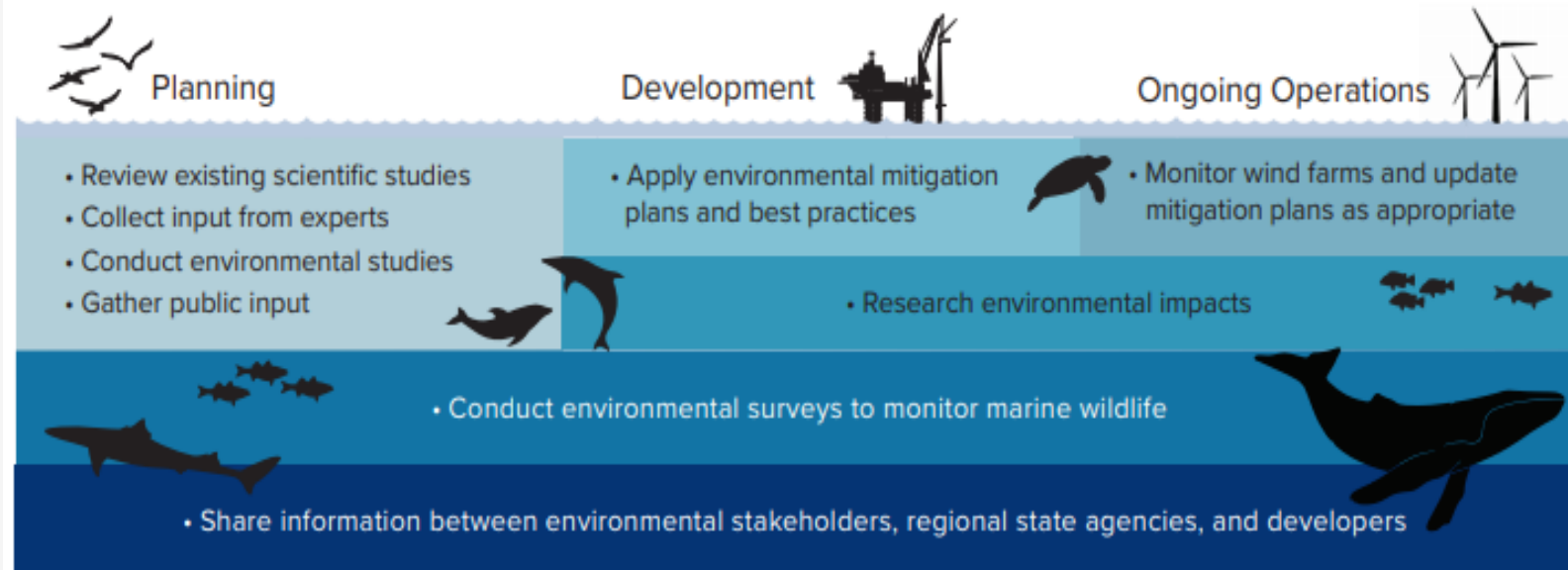
Source: <https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan>

New York Offshore Wind

Shaping the Master Plan

The New York State Offshore Wind Master Plan outlines the State's approach to responsible and cost-effective offshore wind development. While forming the Plan, the State conducted extensive wildlife and environmental research, which sets the expectation that all offshore wind development supported by the State will take steps to mitigate environmental impacts.

To view the full Master Plan and associated environmental studies, visit [nysed.gov/offshorewind](https://www.nysed.gov/offshorewind)



Source: <https://www.nysed.gov/-/media/Files/Programs/offshore-wind/osw-environmental-fact-sheet.pdf>

New York Offshore Wind Visibility

Use Your Thumb

How big will wind turbines appear from shore?

The closest offshore wind farm to New York's coast will be the Empire Wind 1 project, located approximately 14 miles from Jones Beach State Park on Long Island at its closest point. If you fully extend your arm and look at your thumb, the turbines may be visible under clear weather conditions at less than a quarter the size of your thumbnail. All other projects will be at least 21 and up to 63 miles away, outside the range of visibility from New York's shoreline.

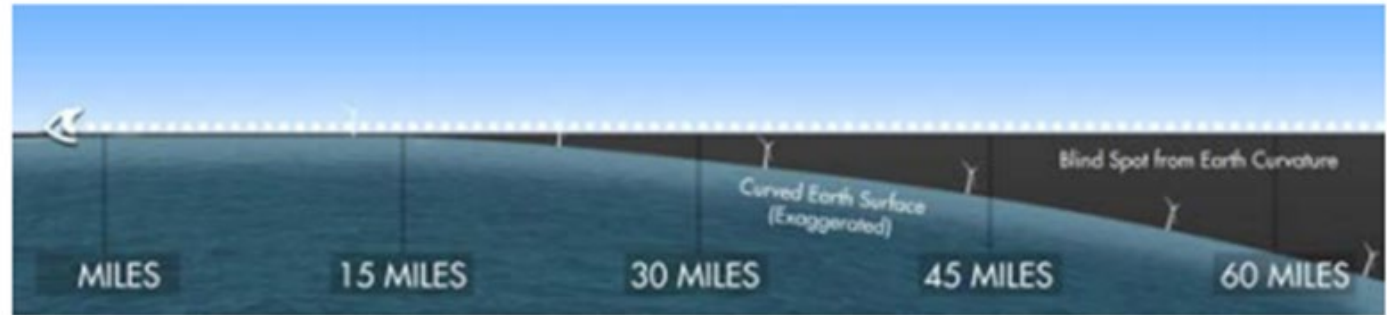


Figure 7-1. Influence of curvature of the earth on potential visibility of offshore wind turbines as demonstrated by viewshed models

Source: <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/NY/Visual-Simulations/Compendium-Report.pdf>

Source: <https://www.nyscrda.ny.gov/All-Programs/Programs/Offshore-Wind/About-Offshore-Wind>

New York Offshore Wind

Engaging in the development process

The New York State Energy Research and Development Authority (NYSERDA) leads the Environmental Technical Working Group (E-TWG), a solutions-oriented advisory group that helps guide environmentally responsible offshore wind development. Comprised of non-governmental organizations, offshore wind developers, and federal and state agencies, its initiatives include:

- Identifying best management practices to reduce the amount and extent of impacts on wildlife caused by offshore wind development.
- Working with developers to create, follow, and adjust environmental mitigation plans that outline strategies to minimize the environmental impacts of their projects and become part of their contracts.
- Creating a database that provides a publicly accessible, searchable tool for wildlife and fisheries mitigation and monitoring practices, drawing from offshore and onshore wind, as well as other marine industries.
- Advising on research priorities to support environmentally responsible development of offshore wind.
- Organizing 'State of the Science' workshops to bring together the broader environmental community to discuss environmental studies, research gaps, and ways to use findings to inform responsible offshore wind development.
- Developing a regional coordination framework to conduct and fund critical research and mitigation efforts that are best addressed at a regional scale.

Source: <https://www.nyserda.ny.gov/-/media/Files/Programs/offshore-wind/osw-environmental-fact-sheet.pdf>

New York Offshore Wind: Addressing environmental and visual effects

“It is very common for opposition to wind farms to be presented as a concern about environmental risk, even if underlying social and economic issues are at the base of the concern. Many of the concerns are associated with the proximity of stakeholder properties and activities to proposed wind farms, including visual effects. By addressing social and economic issues alongside the environmental issues, there is an opportunity to counteract opposition to wind energy development, while ensuring that local communities are respected and kept informed of the plans and outcomes of the development.”

Source:

https://www.researchgate.net/publication/345718391_Enabling_Renewable_Energy_While_Protecting_Wildlife_An_Ecological_Risk-Based_Approach_to_Wind_Energy_Development_Using_Ecosystem-Based_Management_Values

Public Comments

NYSERDA Offshore Wind Outreach Webpage:

<https://www.nyserra.ny.gov/All-Programs/Programs/Offshore-Wind/Announcements-and-Events>

- Find scheduled public meetings, recordings and presentations
- Sign up for email updates



Questions?

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